

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P931187

Luminaire Tested: DFN2DS-SQ4F0-120DS940-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931187
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-SQ4F0-120DS940-FLL
Description: 4 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

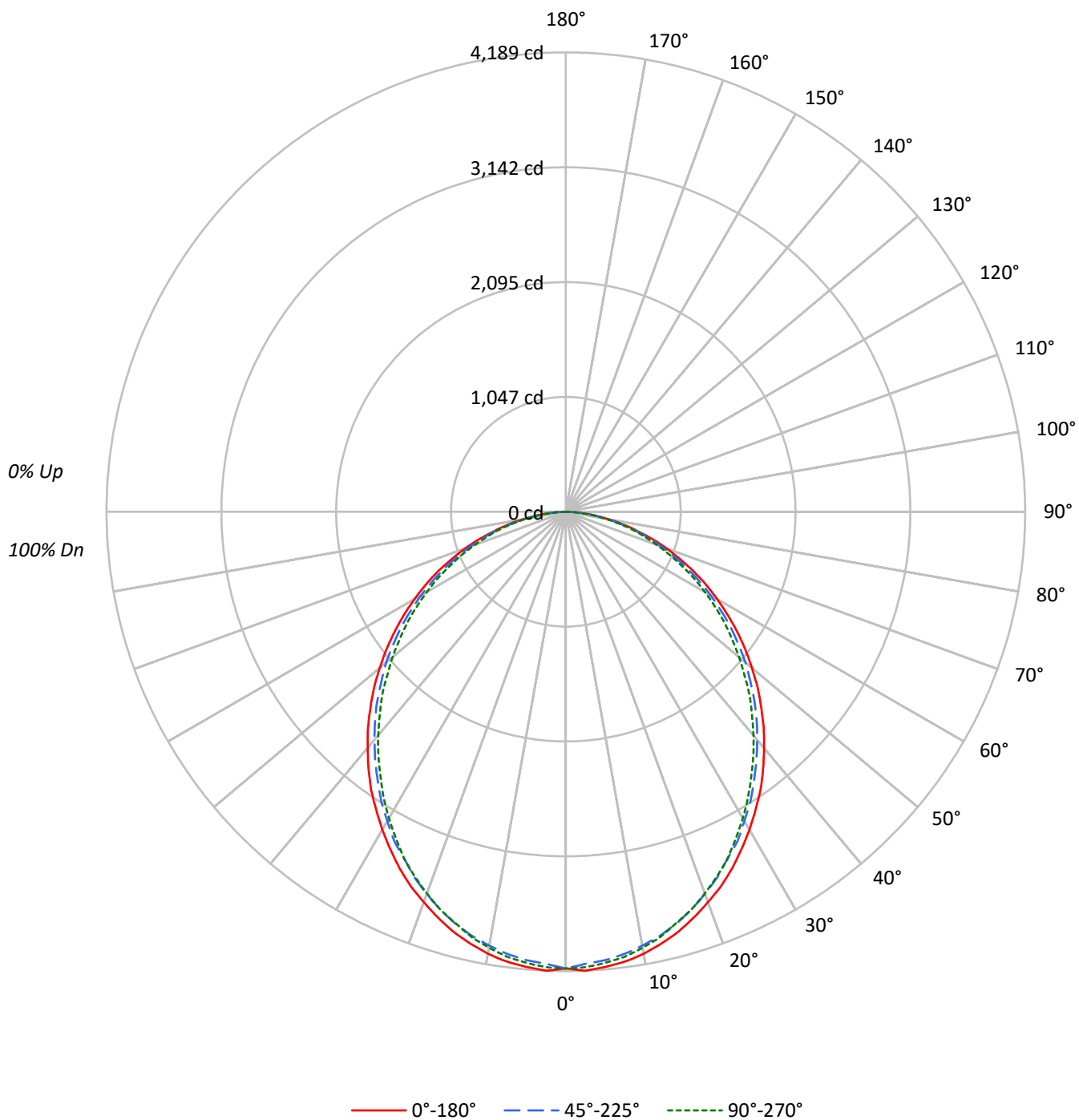
Lumens per Lamp: N/A
Luminaire Lumens: 10597.0 lumens
Efficiency: N/A
Efficacy: 84.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 125.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9933
Total Harmonic Distortion (THDi): 0.066
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P931187

CATALOG NUMBER: DFN2DS-SQ4F0-120DS940-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P931187

CATALOG NUMBER: DFN2DS-SQ4F0-120DS940-FLL

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2922	2922	2922
5°	2934	2891	2908
10°	2916	2862	2876
15°	2880	2825	2822
20°	2829	2769	2766
25°	2778	2701	2701
30°	2713	2638	2615
35°	2652	2563	2525
40°	2575	2487	2440
45°	2500	2412	2353
50°	2418	2335	2251
55°	2332	2244	2161
60°	2237	2136	2057
65°	2135	2028	1935
70°	2005	1898	1808
75°	1824	1748	1705
80°	1619	1569	1489
85°	1320	1259	1129

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2500 cd/sqm

TEST NUMBER: P931187

CATALOG NUMBER: DFN2DS-SQ4F0-120DS940-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	392.0	3.7
10°-20°	1103.0	10.4
20°-30°	1620.9	15.3
30°-40°	1882.6	17.8
40°-50°	1880.3	17.7
50°-60°	1639.5	15.5
60°-70°	1212.0	11.4
70°-80°	685.7	6.5
80°-90°	181.0	1.7
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	3115.9	29.4
0°-40°	4998.5	47.2
0°-60°	8518.3	80.4
0°-90°	10597.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10597.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4165	4165	4165	4165	4165	
5°	4165	4149	4105	4137	4129	395
15°	3965	3941	3889	3905	3885	1117
25°	3588	3556	3488	3496	3488	1651
35°	3096	3056	2992	2968	2948	1933
45°	2519	2491	2431	2387	2371	1944
55°	1907	1882	1834	1786	1766	1705
65°	1286	1262	1222	1186	1166	1271
75°	673	665	645	621	629	718
85°	164	160	156	144	140	193
90°	0	0	0	0	0	

TEST NUMBER: P931187

CATALOG NUMBER: DFN2DS-SQ4F0-120DS940-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4165.0	4165.0	4165.0	4165.0	4165.0
2.5°	4189.2	4169.2	4125.1	4165.0	4157.3
5°	4165.0	4149.2	4105.1	4136.9	4129.2
7.5°	4136.9	4113.1	4068.9	4101.2	4093.2
10°	4093.2	4065.1	4017.1	4049.0	4037.1
12.5°	4032.8	4009.0	3961.0	3981.0	3972.9
15°	3964.9	3941.0	3888.8	3904.9	3884.9
17.5°	3880.7	3856.9	3804.6	3824.6	3804.6
20°	3788.5	3764.7	3708.7	3720.5	3704.8
22.5°	3696.7	3660.6	3608.3	3608.3	3600.3
25°	3588.3	3556.5	3488.5	3496.2	3488.5
27.5°	3468.1	3440.1	3388.3	3376.3	3356.4
30°	3348.3	3316.0	3256.1	3244.2	3228.1
32.5°	3219.9	3196.2	3132.0	3107.8	3091.7
35°	3095.9	3056.0	2991.8	2967.6	2947.6
37.5°	2955.6	2919.6	2855.4	2827.4	2807.4
40°	2811.7	2779.4	2715.2	2679.5	2663.3
42.5°	2671.5	2639.2	2575.4	2535.1	2511.2
45°	2519.3	2491.3	2430.9	2387.2	2371.0
47.5°	2371.0	2342.9	2278.8	2234.6	2210.8
50°	2214.7	2194.7	2138.6	2082.5	2062.5
52.5°	2062.5	2034.5	1982.6	1938.4	1910.4
55°	1906.6	1882.4	1834.3	1786.3	1766.3
57.5°	1750.2	1730.2	1677.9	1630.0	1613.8
60°	1593.8	1578.1	1522.0	1477.9	1465.9
62.5°	1441.7	1413.6	1373.8	1333.8	1317.7
65°	1285.8	1261.6	1221.6	1185.5	1165.6
67.5°	1125.6	1105.2	1069.5	1041.5	1025.4
70°	977.3	961.1	925.0	897.0	881.3
72.5°	825.2	809.0	789.1	761.1	749.1
75°	672.7	665.0	644.6	620.8	628.9
77.5°	536.6	520.5	512.5	500.5	488.6
80°	400.7	396.4	388.4	376.5	368.4
82.5°	272.3	272.3	268.6	252.4	252.4
85°	164.0	160.2	156.4	144.1	140.2
87.5°	72.3	64.1	56.1	44.2	40.0
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P931187

CATALOG NUMBER: DFN2DS-SQ4F0-120DS940-FLL

CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	15.01	16.62	15.37	16.93	17.25	14.56	16.18	14.93	16.49	16.80
	3H	16.76	18.21	17.14	18.54	18.90	16.27	17.72	16.64	18.05	18.41
	4H	17.40	18.77	17.80	19.12	19.50	16.91	18.28	17.31	18.63	19.00
	6H	17.87	19.14	18.29	19.51	19.90	17.37	18.64	17.78	19.01	19.40
	8H	18.02	19.23	18.44	19.62	20.02	17.51	18.73	17.94	19.11	19.51
	12H	18.11	19.27	18.54	19.65	20.08	17.60	18.76	18.02	19.14	19.57
4H	2H	15.57	16.94	15.97	17.29	17.66	15.22	16.59	15.61	16.93	17.31
	3H	17.54	18.69	17.95	19.09	19.49	17.14	18.28	17.55	18.68	19.08
	4H	18.32	19.36	18.75	19.77	20.21	17.90	18.93	18.33	19.35	19.78
	6H	18.92	19.82	19.37	20.26	20.72	18.48	19.39	18.94	19.83	20.29
	8H	19.11	19.95	19.57	20.40	20.86	18.67	19.52	19.13	19.96	20.42
	12H	19.24	20.00	19.72	20.47	20.94	18.79	19.55	19.27	20.02	20.49
8H	4H	18.59	19.44	19.05	19.88	20.35	18.22	19.07	18.68	19.51	19.97
	6H	19.31	20.01	19.80	20.50	20.97	18.93	19.63	19.42	20.12	20.59
	8H	19.57	20.20	20.08	20.70	21.19	19.18	19.81	19.69	20.31	20.80
	12H	19.77	20.32	20.27	20.82	21.38	19.35	19.91	19.86	20.40	20.96
12H	4H	18.62	19.38	19.10	19.86	20.33	18.26	19.02	18.74	19.49	19.96
	6H	19.35	19.99	19.86	20.49	20.98	18.98	19.62	19.49	20.12	20.61
	8H	19.67	20.23	20.17	20.72	21.28	19.29	19.85	19.80	20.34	20.90